BlueDragon™ 6.2.1

Server and Server JX Installation Guide

NEW ATLANTA COMMUNICATIONS, LLC

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Server and Server JX Installation Guide

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100 Prospect Place • Alpharetta, Georgia 30005-5445
Phone 678.256.3011 • Fax 678.256.3012
http://www.newatlanta.com

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1. Introduction

BlueDragon is family of server-based products for the deployment of ColdFusion® Markup Language (CFML) for dynamic web publishing—with native technology platform integration on the operating system, web server, and database of your choice. CFML is a popular server-side, template-based markup language that boasts a rich feature set and renowned ease-of-use.

In addition to CFML, some BlueDragon editions also implement the Java Servlet API and JavaServer Pages™ (JSP) standards defined by Sun Microsystems, Inc. as component technologies of the Java 2 Platform, Enterprise Edition (J2EE™).

BlueDragon provides a high-performance, reliable, standards-based environment for hosting CFML web applications, and enables the integration of CFML with J2EE and Microsoft .NET technologies.

1.1 About This Manual

The *BlueDragon 6.2.1 Server and Server JX Installation Guide* presents information of use primarily to those responsible for installing BlueDragon, but it also offers information useful to those planning for installation as well as CFML developers interested in certain technical details about the BlueDragon environment.

This manual offers a brief discussion of the BlueDragon product configurations, then information on preparing for installation, running the installer, verifying the installation, using the BlueDragon administration console, viewing logs of activity, and uninstalling BlueDragon.

Additionally, it offers information on executing your CFML templates with BlueDragon (where to place code, depending on whether you're using the built-in web server or a web server adapter), as well as information about updating BlueDragon from one release to another (or installing multiple versions of BlueDragon), and the special issues regarding preserving settings, documents, and logs between releases.

1.2 Technical Support

If you're having difficulty installing or using BlueDragon, visit the self-help section of the New Atlanta web site for assistance:

http://www.newatlanta.com/products/bluedragon/self_help/index.cfm

Besides offering all the documentation, a FAQ, and feature request options, perhaps the most useful aspect of our self-help support is our active BlueDragon-Interest discussion list. New Atlanta engineers and customers are available to help solve both common and challenging problems. There's also a searchable archive of past discussion list topics.

Details regarding paid support options, including online-, telephone-, and pager-based support are available from the New Atlanta web site:

http://www.newatlanta.com/biz/support/index.jsp

1.2.1 Additional Information in FAQs

As discussed above, additional information about working with BlueDragon can be found in the frequently asked questions section of the New Atlanta site, http://www.newatlanta.com/biz/c/products/bluedragon/self_help/faq/home. In particular, new information is often posted there before it can be incorporated into this documentation. It's always useful to read the FAQs when you're having a problem, then use the BlueDragon-Interest discussion list if you have continuing questions not answered in the documentation.

1.3 Other Documentation

The other manuals available in the BlueDragon documentation library are:

- *BlueDragon 6.2.1 CFML Compatibility Guide*
- *BlueDragon 6.2.1 CFML Enhancements Guide*
- *BlueDragon 6.2.1 User Guide*
- *Deploying CFML on J2EE Application Servers*
- *Deploying CFML on ASP.NET and the Microsoft .NET Framework*
- *Integrating CFML with ASP.NET and the Microsoft .NET Framework*

Each offers useful information that may be relevant to developers, installers, and administrators, and they are available in PDF format from New Atlanta's web site:

http://www.newatlanta.com/products/bluedragon/self_help/docs/index.cfm

2. BlueDragon Product Configurations

BlueDragon is currently available in three product configurations: BlueDragon Server, BlueDragon Server JX, BlueDragon for J2EE and BlueDragon for the Microsoft .NET Framework.

2.1 BlueDragon Server and Server JX

The BlueDragon standalone server is available in two editions: *BlueDragon Server JX*, a full-featured web application server that supports CFML, JSP, and Java Servlets; and, the entry-level *BlueDragon Server* that only supports CFML (not JSP or Java Servlets) and has other feature limitations as compared to BlueDragon Server JX.

BlueDragon Server is free for non-commercial deployment, meaning you can use it in production, with restrictions only on redistribution and hosting. Redistribution of BlueDragon as part of a packaged application requires a VAR/OEM Licensing Agreement with New Atlanta. For more details on New Atlanta's VAR/OEM licensing program, please email sales@newatlanta.com).

BlueDragon Server is available for Windows, Mac OS X and Linux, while BlueDragon Server JX is available for Windows, Mac OS X, and Linux.

Both BlueDragon Server versions contain a built-in web server for development and testing, and each integrates with Microsoft IIS, Sun ONE/Netscape/iPlanet (JX only), and Apache web servers for deployment.

See the *BlueDragon 6.2.1 User Guide* and *BlueDragon 6.2.1 CFML Compatibility Guide* for information on other limitations in the BlueDragon Server FREE edition.

2.2 BlueDragon/J2EE

BlueDragon for J2EE Servers (BlueDragon/J2EE) allows you to deploy CFML applications as native J2EE components on BEA WebLogic, IBM WebSphere, JBoss, and other standard J2EE servers (and servlet engines such as Apache Tomcat and New Atlanta ServletExec).

In addition to enabling native integration with other J2EE components on the server (such as EJBs, JMS, and more), you can also leverage features of the J2EE server which can include supporting multiple independent instances of your web application, clustering of

your application across multiple servers, load balancing and failover, support for J2EE sessions and J2EE datasources, and more.

BlueDragon/J2EE is available for Windows, Mac OS X, SPARC Solaris, IBM AIX, HP-UX and Linux (and indeed, on any operating system which supports a J2EE server).

2.3 BlueDragon for the Microsoft .NET Framework

BlueDragon for the Microsoft .NET Framework allows you to deploy CFML applications as native .NET components on .NET servers. Like the J2EE edition, this also opens the door to integration with existing native .NET components as well as with ASP.NET pages.

For information on BlueDragon/J2EE, see the available BlueDragon document, *Deploying CFML on the Microsoft .NET Framework*.

2.4 References to Product Names in This Document

This document describes the installation of BlueDragon Server and BlueDragon Server JX. Except where explicitly noted, all occurrences of "BlueDragon Server" in this document refer to both BlueDragon Server and BlueDragon Server JX.

For information on BlueDragon/J2EE, see the available BlueDragon document, *Deploying CFML on J2EE Application Servers*.

2.5 Trial Editions and Licensing

When BlueDragon Server JX is first installed it operates in Evaluation mode for 30 days. After that, BlueDragon Server JX reverts to Development mode, in which BlueDragon Server JX only accepts requests from clients (browsers) running on the same computer. After purchasing a license key (or obtaining a time-limited Evaluation license key from sales@newatlanta.com), enter the license key via the BlueDragon administration console to remove the local-IP development mode restriction.

The entry-level BlueDragon Server is free for development and non-commercial deployment, and is fully functional upon installation. It has no local-IP address restriction and therefore no license key is needed. Note, however, that the built-in web server, used for the administration console and optionally for testing and development, is set by default to allow only a single IP address, as discussed in the next section. Don't confuse that limitation when attempting to use the free Server edition.

Visit New Atlanta's web site for additional information regarding BlueDragon product configurations and licensing:

http://www.newatlanta.com/bluedragon/

3

3. Preparing For Installation

Before proceeding with installation of BlueDragon, there are a few concepts you should understand and in some cases preliminary steps that you should take first.

3.1 System Requirements

BlueDragon Server and Server JX is supported on the following operating systems, and provides web server adapters for the following web servers (*Both BlueDragon Server and Server JX are* **not** *supported on Windows 95/98/Me*):

OS	Web Server
Windows 2003 Windows XP Professional Windows 2000	▪ Microsoft IIS 4.0, 5.0, 5.1, and 6.0 ▪ Netscape Enterprise Server (NES) 3.5.1 and higher ▪ iPlanet Web Server (iWS) 4.0 and higher ▪ SunONE Web Server 6.1 ▪ Apache HTTP Server 1.3.9 through 1.3.33 ▪ Apache HTTP Server 2.0.42 through 2.0.55
Red Hat Linux 9 Red Hat Enterprise Linux 2.1 & v3 Fedora Core 1,2,3,4 Suse Linux 9.x CentOS 4.2	▪ Apache HTTP Server 1.3.4 through 1.3.33 ▪ Apache HTTP Server 2.0.42 through 2.0.55
Mac OS X 10.1 and above	▪ Apache HTTP Server 1.3.x ▪ Apache HTTP Server 2.0

As for other flavors of Linux, while we have not tested and do not support them officially, we have had customers run on Slackware, Debian, Gentoo and others. The key requirement is to be running the 2.4 kernel on an x86 32-bit platform.

If you need to deploy BlueDragon on combinations of OS platform and/or web servers not listed here, consider using BlueDragon/J2EE. It allows you to deploy CFML applications on any standard J2EE web server (or Servlets 2.2 servlet engine); therefore if a given J2EE server or servlet engine supports your desired platform/web server configuration not listed here, BlueDragon/J2EE will allow you to run your CFML applications on that configuration.

For information about BlueDragon/J2EE, see the document, *Deploying CFML on J2EE Application Servers.*

3.1.1 JDK Requirements

BlueDragon Server and Server JX for Windows and Linux are bundled with JDK 1.4.2, and for those editions that is the only JDK version we will support. When installed on Mac OS X, these editions require JDK 1.4.x as well.

If you require support for an earlier JDK, consider the BlueDragon/J2EE edition. This will run on JDK 1.3 (or whatever JDK your J2EE server will support). Be aware, however, that our support for encrypted templates (see the *BlueDragon 6.2.1 User Guide*) requires the Java Cryptography Extension (JCE):

```
http://java.sun.com/products/jce/index.jsp
```

You can use precompiled templates without the JCE; you just can't encrypt them unless the JCE is installed (the JCE is included with JDK 1.4).

3.2 Running Alongside ColdFusion and Servlet/JSP Engines

You can install BlueDragon Server and Server JX on a machine already having ColdFusion 5, ColdFusion MX, or other Servlet/JSP engines installed. The only concern is web server integration and/or port selection for the built-in web server (as discussed in the following sections). (If you have installed ColdFusion MX, you may also have an issue with the WildCard Mapping feature in IIS. See section 3.7.2.2 for more information.)

If you have another ColdFusion or Servlet/JSP engine installed and configured to integrate with an external web server, be aware that installing BlueDragon and choosing to integrate it with that web server will take over relevant extension mappings: .cfm, .cfml, and .cfc extensions (and .jsp extensions in Server JX).

Additionally, if you’re using a web server that permits multiple virtual hosts (including iPlanet and Apache, as well as IIS running under a Server edition of Windows), you can configure different hosts to respond to requests for CFML files, and the BlueDragon feature for adding a web server adapter on these servers can detect and offer to configure

individual virtual hosts. See section 3.7 for additional information on configuring web server adapters.

Yet another solution is to configure the web server to identify different virtual directories to serve CFML out of a single physical directory but directed against either of multiple CFML servers installed on the machine. For more information, see the article, "Setting Up Your Development Server with ColdFusion 5, MX, and BlueDragon", in the September 2003 edition of ColdFusion Developers Journal, which is available online at http://cfdj.sys-con.com/read/42069.htm.

You can also avoid this problem by using BlueDragon's built-in web server for page processing, or you can install a new web server for integration with BlueDragon.

Of course, there is no conflict installing BlueDragon if you have installed ColdFusion MX using its built-in web server or a servlet/JSP engine that uses its own web server.

3.3 Upgrading and Installing Multiple Versions of BlueDragon

It is possible to install multiple versions of BlueDragon, including different editions (Server and Server JX) at once, as well as multiple copies of different releases of the same edition (Server 6.1 and Server 6.2.1, for instance). Be aware of some issues regarding preserving settings from one installation of BlueDragon when installing another (as well as when uninstalling BlueDragon). This is covered in more detail in sections 8 and 9.

3.4 Support for MySQL

All editions of BlueDragon (except the free Server edition on Windows) show an available MySQL Driver in the list of choices of drivers offered in the administration console when adding a datasource (discussed further in section 6.3). Additionally, all editions deployed on Windows support the ODBC Driver available from MySQL.

Unfortunately, due to licensing restrictions we can not provide the driver automatically with the download of BlueDragon. Instead, you must download and install the driver (JDC or ODBC), and configure BlueDragon to recognize that driver.

For more information, see the FAQ 216, "How can I define a MySQL datasource?" which is available on the New Atlanta web site:

http://www.newatlanta.com/biz/c/products/bluedragon/self_help/faq/detail?faqId=216

3.5 BlueDragon Servers Account Privileges

Be aware that BlueDragon Server and Server JX editions run by default as root on Linux and OS X systems, and as the Local System Account on Windows systems. This is something we may change in the future.

3.6 Built-in Web Server

BlueDragon Server contains a built-in web (HTTP) server that can be used for development and testing, and is also used to access the BlueDragon administration console. The BlueDragon built-in web server is not recommended for use on production web sites. See section 3.7 for more information on using web server adapters for integration with web servers like IIS, Apache, and more. Additionally, see section 5.1 for additional information on using the built-in web server.

You will be prompted by the BlueDragon installer to specify a TCP/IP port number for the built-in web server; the default port number is 8080. After installation, you may modify the port number via the BlueDragon administration console.

3.7 Web Server Adapters

For deploying production web sites, BlueDragon Server includes adapters for all leading web servers: Microsoft® Internet Information Server (IIS), Netscape® Enterprise Server (NES), iPlanet™ Web Server (iWS), and Apache HTTP Server. You may choose to have the BlueDragon installer install a web server adapter, or you may install a web server adapter via the BlueDragon administration console. Regardless of the method you choose, *you must restart the web server after installing a BlueDragon web server adapter; see section3.7.2.6, below, for instructions on restarting Microsoft IIS.*

BlueDragon Server uses a TCP/IP port for communication with the web server adapter; the default port number is 9999. You will be prompted to specify the port number when you install a web server adapter. *The web server adapter port number must be different than the built-in web server port number!* (It also must be a port number not used by any other server on your machine, including any other installations of BlueDragon server that might also be using the default 9999 port.)

The following subsections describe additional topics relevant to using web server adapters.

3.7.1 General Web Server Adapter Issues

3.7.1.1 Multi-homed Web Servers and the CacheRealPath Option

When deploying on a web server using multiple virtual hosts/websites/roots (often called multi-homing), BlueDragon's default behavior for caching templates (the "cacherealpath" setting) is different from ColdFusion MX's.

ColdFusion MX presumes that the different virtual hosts have the same content (such as when the different hosts on the same web server are clustered), and you must change their "cacherealpath" setting if the hosts each have different content, as discussed in Macromedia TechNote 18258.

BlueDragon instead presumes that the different hosts will have different content, and therefore you need only change this setting when that's not the case (as in a clustering situation).

There are two indications that this is set incorrectly. If you view the BlueDragon Admin console's entry for `File Cache>runtime state`, you may observe that the reported size of `Files in Cache` (the number of templates cached) is the same or close to the `Cache Size`. (the maximum size of the cache, as set in `File Cache>configure`.) Further, if you look at the list of files cached on the `File Cache>runtime state` page, you may see that files with the same "real path" are listed more than once, reflecting their being cached due to calls via different hosts.

To change the setting for when the same content is served on multiple virtual hosts, add the following entry in the `BlueDragon.xml` file, in the `<file>` section:

```
<cacherealpath>false</cacherealpath>
```

As always, after modifying the `BlueDragon.xml` file, you must restart BlueDragon for the changes to take effect.

It's worth nothing, as well, that an implication of **not** setting this value when the content is the same is that an entry will be made in the file template cache for each requested page on **each** virtual host. (If specified as above, only one entry would be made in the template cache for each requested page across all virtual hosts.) It would be advisable, therefore, if not setting this value (or setting it to true) that you evaluate the corresponding template cache file size setting in the BlueDragon Admin console. See the `Max Files` setting on the page reached by the `File Cache>configure` option in the navigational toolbar.

3.7.1.2 BlueDragon Does Not Configure Index.cfm as Default Document

BlueDragon does not declare index.cfm or any other filenames in the the web server's list of default documents. If your code relies on that, please add that yourself using the appropriate mechanism, such as the `Documents` tab in the `Properties` dialogue for the IIS web site or virtual directory, or the `DirectoryIndex` entry in Apache's `httpd.conf` file.

3.7.2 IIS Web Server Adapter Issues

Following are several issues specific to Microsoft IIS.

3.7.2.1 Microsoft IIS Adapter uses Extension Mappings

If you install a web server adapter on Microsoft IIS, be aware that the adapter runs using extension mappings rather than as an ISAPI filter. Generally, the adapter configuration is handled entirely by BlueDragon, but this clarification is useful should you need to perform any manual configuration.

3.7.2.2 Disable Any IIS "WildCard Mapping" Enabled by ColdFusion MX

On Windows 2003 only, if the ColdFusion MX installer has been run prior to installing BlueDragon, it will have enabled an IIS-specific feature called "wildcard mappings", which is set on the `Application Configuration` page where file extensions (like CFM and CFC) are defined. You must remove any wildcard mappings before BlueDragon can process CFML pages.

3.7.2.3 Windows "Data Execution Protection" Mechanism

Editions of Windows XP SP 2 and Windows 2003 may enable another possible security feature in its Data Execution Protection (or DEP) mechanism. If enabled, this may prevent the BlueDragon installer from running. See the following for more information:

http://support.microsoft.com/kb/875352

3.7.2.4 Windows 2003 Security Settings

Windows 2003 is configured by default to not permit ASP.NET pages to execute. You must also ensure that proper security settings have been enabled to permit execution of ASP.NET pages, as discussed in the following resource:

http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/44f16c37-f727-4244-9813-2289e13dadba.mspx

Again, the same security restrictions (if not lifted) would prevent execution of CFML pages once BlueDragon is installed.

Recent editions of Windows 2003 may also have enabled the "Security Configuration Wizard for Windows Server 2003". While disabled by default, if enabled, this could be another source of security restrictions. See the following for more information:

http://www.microsoft.com/windowsserver2003/technologies/security/configwiz/default.mspx

3.7.2.5 Issues with IIS Lockdown Tool URLScan Feature

Some users have reported that the IIS Lockdown tool's URLScan feature can cause a conflict with BlueDragon/IIS integration. If you have enabled the Lockdown tool, and are having problems with BlueDragon running on IIS, disable the URLScan feature. For more information on the tool, see:

http://www.microsoft.com/technet/security/tools/locktool.mspx

and

http://www.microsoft.com/windows2000/downloads/recommended/urlscan/

3.7.2.6 Restarting Microsoft IIS

If you install a web server adapter on Microsoft IIS, follow these instructions to restart Microsoft IIS and make sure the BlueDragon web server adapter is initialized properly.

For Microsoft IIS 5.0/5.1/6.0 on Windows 2000/XP/2003:

1. Using the Internet Services Manager, right click on the computer name and select the Restart IIS menu option as illustrated in Figure 1, below.

2. In the Stop/Start/Reboot… dialog, select Restart Internet Services from the pull-down menu, then click the OK button as illustrated in Figure 2, below.

For Microsoft IIS 4.0 on Windows NT 4.0:

1. Stop or restart the IIS Admin service using the Services control panel.
2. Start the World Wide Web Publishing service using the Services control panel.

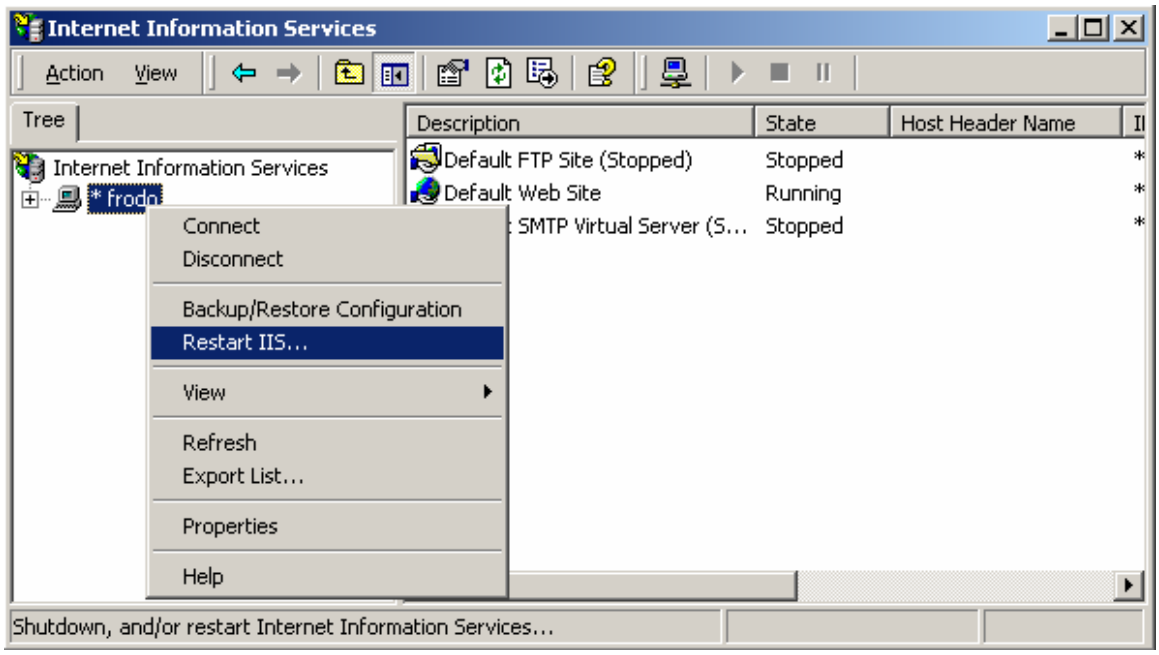

Figure 1. Restarting IIS 5.0 on Windows 2000 (Step 1)

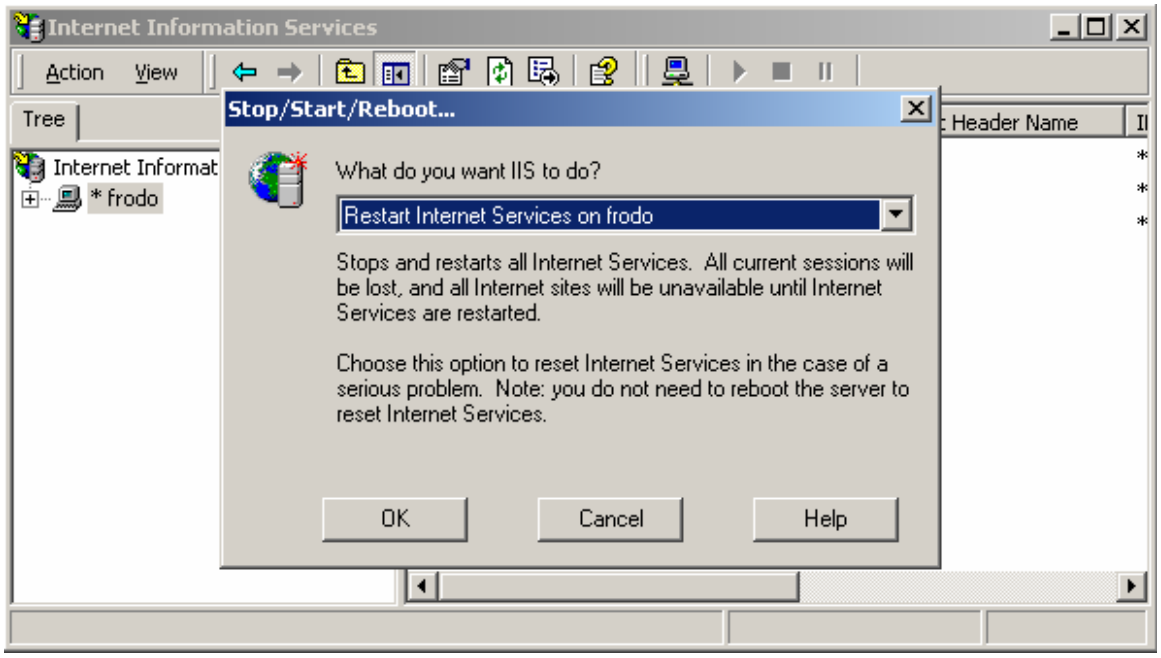
Internet Information Services
Action
View
Tree
Internet Informat
* frodo
Header Name
Stop/Start/Reboot...
What do you want IIS to do?
Restart Internet Services on frodo
Stops and restarts all Internet Services. All current sessions will be lost, and all Internet sites will be unavailable until Internet Services are restarted.
Choose this option to reset Internet Services in the case of a serious problem. Note: you do not need to reboot the server to reset Internet Services.
OK
Cancel
Help

Figure 2. Restarting IIS 5.0 on Windows 2000 (Step 2)

3.7.3 Apache Web Server Issues

Following are Apache web server issues.

3.7.3.1 Apache Support on Red Hat 9

Red Hat 9 comes with Apache 2.0.40. As discussed in the requirements section above, BlueDragon supports only 2.0.42 through 2.0.53. Please upgrade to one of these later versions of Apache. A solution for this problem is under consideration. Please contact bluedragon-support@newatlanta.com for more information if you cannot upgrade your Apache version.

3.7.3.2 Apache Configurations in Linux and Mac OS X

Mac OS X and many Linux distributions provide pre-installed Apache web server configurations. Some of these installations use Apache directory structures that are unique to the installation and differ from the "standard" provided by the Apache Group's binary and source configurations. Rather than recognizing all these configurations, the BlueDragon Server installers and administration console assume a "standard" configuration used by the Apache Group's binary packages (there is one exception described below). Therefore, in such situations with a non-standard Apache installation, BlueDragon will not present the option to integrate with Apache during installation or on the Web Server Adapter screen in the BlueDragon Admin console.

To accommodate for these differences, the following information described a method to create a simple set of symbolic links which allow BlueDragon to properly detect any non-standard Apache installation. This set of symbolic links **must be established prior** to installation of the BlueDragon Apache adapter—either before installation of BlueDragon

Server itself or before starting the BlueDragon Server when attempting to use the Admin console to add the web server adapter.

For more clarity, the following table describes the directory and file differences between the Apache Group standard and that for Gentoo and Mac OS X default configurations. From this information it should be straightforward to derive the required information for other configurations, such as Debian or Slackware. (Note that the "environment variable"-style notation used below is only to compact the size of the table and need not be used in any commands executed on your system).

	Apache Group	Gentoo	Mac OS X
base installation directory ${BASEDIR}	/usr/local/apache	N/A	N/A
configuration files ${CONFDIR}	${BASEDIR}/conf	/etc/apache/conf	/etc/httpd
configuration specification file	${CONFDIR}/httpd.conf	${CONFDIR}/apache.conf	${CONFDIR}/httpd.conf
document root	${BASEDIR}/htdocs	/var/www/html	/Library/WebServer/Documents
modules	**Apache 1:** ${BASEDIR}/libexec **Apache 2:** ${BASEDIR}/modules	/etc/httpd/modules	/usr/libexec/httpd
executable file	${BASEDIR}/bin/httpd	/usr/sbin/httpd	/usr/sbin/httpd

To accommodate these differences, the following commands need to be run on a Mac OS X system to adapt the Apache web server configuration for use with BlueDragon Server:

```
mkdir –p /usr/local/apache/bin
ln -s /etc/httpd /usr/local/apache/conf
ln -s /Library/WebServer/Documents /usr/local/apache/htdocs
ln -s /usr/libexec/httpd /usr/local/apache/libexec
ln -s /usr/libexec/httpd /usr/local/apache/modules
ln -s /usr/sbin/httpd /usr/local/apache/bin/httpd
```

Likewise, the following commands would need to be run on a Gentoo system to adapt the Apache web server configuration for use with BlueDragon Server:

```
mkdir –p /usr/local/apache/bin
ln -s /etc/httpd/conf /usr/local/apache/conf
ln -s /var/www/html /usr/local/apache/htdocs
ln -s /etc/httpd/modules /usr/local/apache/libexec
ln -s /etc/httpd/modules /usr/local/apache/modules
```

```
ln -s /usr/sbin/httpd /usr/local/apache/bin/httpd
ln –s /etc/apache/conf/apache.conf /usr/local/apache/conf/httpd.conf
```

Note that this example for Gentoo includes a link for the Apache configuration specification file (httpd.conf) since its name is different than that for an Apache Group installation.

Please note that additional functionality has been included into the BlueDragon Server 6.2.1 release allowing it to recognize the pre-installed Apache web server for RedHat & CentOS distributions. When found, BlueDragon Server will report the location of the Apache installation as "/etc/httpd" and will detect its specific version. All supported versions of RedHat systems use only Apache 2 in their pre-installations. BlueDragon will continue to search for Apache installations in the following directories, therefore allowing the symbolic link technique above to continue to work. The search is done in the following order:

```
/usr/local/apache
/etc/httpd
/usr/local/apache2
```

To prevent possible false duplicate installations from being reported, BlueDragon will will detect if the search finds the pre-installed version in either the "/usr/local/apache" or "/usr/local/apache2" directory.

3.7.4 iPlanet Web Server Issues

Following are issues specific to the iPlanet web server.

3.7.4.1 Disabling Netscape Enterprise Server/iPlanet Servlet Support

Finally, if you plan to install a BlueDragon web server adapter with Netscape® Enterprise Server/iPlanet™ Web Server, you must first disable the web server's built-in servlet support (see Appendix A of this document for detailed instructions).

3.8 Linux Installation Concerns

Following are some Linux-specific installation concerns.

3.8.1 Graphics Rendering Operations on a Headless Linux System

On Linux systems, the Java 1.4 implementation supplied with BlueDragon Server cannot generate graphical objects via its AWT library without support from native libraries on the system. Since Linux server systems are often configured without the graphical user interface devices and therefore none of the native graphic rendering support. This causes failures for both the cfImage tag as implemented in BlueDragon and for 3rd-party or custom rendering packages when used in these configurations.

There are three common solutions to this problem;

1. activating the Sun JDK 1.4 Headless mode

2. installing a virtual X11 frame buffer

3. using a pure Java version of the AWT

However, none of these have yet been incorporated into the BlueDragon release. Each solution presents complications because of the need to install 3rd-party software and some do not provide a complete solution for all cases of headless graphic rendering. Additionally, New Atlanta Communications has not certified any of these solutions through our typical testing process. Therefore, they are described here to assist with configuring BlueDragon in these environments. The intention is to incorporate a permanent solution into a future release. Until such release, the three solutions are well documented in an old document found at the following location:

http://web.archive.org/web/20030805072738/http://www.davisor.com/chart/doc/headless.html

3.8.2 Running as a Non-root User on Linux-based Systems

On Linux systems, the use of the root user for running BlueDragon is often undesirable because of the possible security breaches which may be introduced. To prevent this possibility, the BlueDragon Server installers allow installation to be performed by users other than root.

However, this often presents problems for the configuration of the BlueDragon external web server adapter because the web server (eg. Apache) installation is owned by the root user. This then prevents BlueDragon's installer or administration console from modifying the web server's configuration as required.

Therefore, if the desire is to avoid the use of the root user for BlueDragon, then the web server that is to be used in conjuction with BlueDragon must be either owned by the same user, in the same group, or the web server configuration file (i.e. `<apache-root>/config/httpd.conf`) must be writable by the same user or group.

3.8.3 C++ CFX Tags on Linux

On some Linux systems, C++ CFX tags may fail to execute if the C++ native shared object/library (`libstdc++.so`) does not exist on the system or does not exist in the `/usr/lib` directory.

Since the proper version of this library cannot easily be determined and packaged with the BlueDragon Server installer in advance, the library will need to be separately installed to the system whenever C++ CFX tags are needed. This library is typically available with the installation of the GNU C compiler package or the `compat` package in Linux distributions.

4. Running the Installer

There are separate BlueDragon installers for Windows, Linux, and Mac OS X. Be sure to download the appropriate installer for your operating system. Also, there are separate installers for BlueDragon Server and BlueDragon Server JX.

Again, installation of BlueDragon/J2EE is covered separately in *Deploying CFML on J2EE Application Servers.*

The BlueDragon installers are Java-based and include a built-in Java VM (JVM). You are not required to have a JVM installed on your computer in order to install BlueDragon; if you do have a JVM installed, BlueDragon will always use its built-in JVM. It is not possible to configure BlueDragon to use an external JVM.

The BlueDragon installers require 32MB of free RAM, a minimum of 8-bit color depth (256 colors), and a minimum 640 x 480 screen resolution. (There is an available console-mode installation for Linux, as explained in section 4.2.1 below.)

The following sections describe installation on Windows, Linux, and Mac OS X. A final section details what was installed. Be sure to review the previous chapter for information about web server adapters before proceeding.

4.1 Installing on Windows

The BlueDragon Server and Server JX installers for Windows are named, respectively:

```
BlueDragon_Server_62.exe
BlueDragon_Server_JX_62.exe
```

Double-click the BlueDragon installer icon to launch Setup. Please review the Software License Agreement carefully and check the READ ME displayed by the setup program for any last minute notices before continuing.

4.1.1 Resolving Installation Problems on Windows

Basic installer status information can be found in the installer log file, which is named `BlueDragon_Server_JX_6.2_InstallLog.log` (or without "`_JX`" version) located in the BlueDragon installation directory (if the installer is aborted before completing, the log file will be placed on the Windows desktop).

More detailed installer debug information can be found in the following files found in the root directory of the drive where BlueDragon installation was attempted:

```
BlueDragon_Server_installation_error.log

BlueDragon_Server_installation_output.log
```

4.2 Installing on Linux

The BlueDragon Server and Server JX installers for Linux have the following file names (the entry-level BlueDragon Server is only available on Linux):

```
BlueDragon_Server_62-Linux.sh
BlueDragon_Server_JX_62-Linux.sh
```

4.2.1 Installing via GUI Versus Console Mode

The BlueDragon installers for Linux can be run in either Graphical User Interface (GUI) mode or console (command-line) mode. To launch the installers in GUI mode, enter the following command (for installing the Server edition, remove the "_JX" portion of the command):

```
sh ./BlueDragon_Server_JX_62-Linux.sh
```

To launch the installers in console mode, enter the following command (again, for the Server edition, remove the "_JX" portion of the command):

```
sh ./BlueDragon_Server_JX_62-Linux.sh –i console
```

Please review the Software License Agreement carefully and check the READ ME displayed by the setup program for any last minute notices before continuing.

4.2.2 Resolving Installation Problems on Linux

Basic installer status information can be found in the installer log file, which is named `BlueDragon_Server_JX_6.2_InstallLog.log` (or without "_JX" version) located in the BlueDragon installation directory (if the installer is aborted before completing, the log file will be placed on the Windows desktop).

More detailed installer debug information can be found in the following files found in the root directory:

```
BlueDragon_Server_installation_error.log

BlueDragon_Server_installation_output.log
```

4.2.3 Startup and Shutdown Automation on Linux

BlueDragon Linux installations include a script for simplifying the starting and stopping of both BlueDragon Server and Server JX configurations. The script is constructed in the "rc" standard form which allows for integration into the system startup and shutdown

sequence of UNIX systems. This script is named based upon the BlueDragon edition and installed into the `/etc/rc.d/init.d` directory. For example, for BlueDragon Server JX, the file `/etc/rc.d/init.d/BlueDragon_Server_JX` will be created.

Currently, BlueDragon Server installers only create the script, but do not assume configuration into any specific run-level. Therefore, in order to have BlueDragon Server controlled at system startup and shutdown, it must be manually *installed* into appropriate `rc.X` subdirectories. Common practice is to create a symbolic link within these directories to the actual start/stop script in the `/etc/rc.d/init.d` directory. For example, to start up BlueDragon Server JX on a RedHat Linux system running the X11 window system (run-level 5), the `ln` command below can be used. [Note that the actual run-level of a system may be different and this link would need to change accordingly. For example a server system may choose not to activate the X11 window system and therefore would start in run-level 3. In this case, the BlueDragon Server startup needs to be linked into the `/etc/rc3.d` directory.]

```
ln -s /etc/init.d/BlueDragon_Server_JX /etc/rc5.d/S95bluedragon
```

To stop BlueDragon Server JX at system shutdown & single user mode, links should be added to the appropriate run-level directories. For example, the following commands can be used to configure the shutdown of BlueDragon Server JX for all single-user states (run-levels 0, 1) on RedHat Linux systems:

```
ln -s /etc/init.d/BlueDragon_Server_JX /etc/rc0.d/K95bluedragon
ln -s /etc/init.d/BlueDragon_Server_JX /etc/rc1.d/K95bluedragon
```

Note that although the specific symbolic link name (S95bluedragon & K95bluedragon) need not be exactly as in these examples, they must conform to the “rc” specifications. Most importantly, startup scripts MUST begin with “Sxx” and shutdown scripts must begin with “Kxx”, where “xx” is any two digit number. See the Linux system specific documentation for complete details on “rc” scripts.

4.3 Installing on Mac OS X

The BlueDragon Server and Server JX installers for Mac OS X have the following file names:

```
BlueDragon_Server_62.zip
BlueDragon_Server_JX_62.zip
```

Each is a "zip" compressed archive which expands to the BlueDragon Server Installer Application (".app"). Some browsers will automatically expand it to the desktop. Double-click the BlueDragon installer icon to launch Setup. Please review the Software License Agreement carefully and check the READ ME displayed by the setup program for any last minute notices before continuing.

4.3.1 Resolving Installation Problems on OS X

Basic installer status information can be found in the installer log file, which is named `BlueDragon_Server_JX_6.2_InstallLog.log` (or without "`_JX`" version) located in the BlueDragon installation directory (if the installer is aborted before completing, the log file will be placed on the Windows desktop).

More detailed installer debug information can be found in the following files found in the root directory:

```
BlueDragon_Server_installation_error.log

BlueDragon_Server_installation_output.log.
```

If the installer fails to launch at all, additional debug information can be obtained by performing the following steps:

- Double-click the BlueDragon installer icon to launch Setup

Immediately hold down the `Command` key until a console window appears.

4.3.1.1 BlueDragon Cannot Install After Uninstallation

On OS X, if you manually uninstall BlueDragon, you may find that you cannot reinstall it: it reports that it's already installed and quits. There is a hidden file that you must also delete. In /usr/local/NewAtlanta, execute the command:

ls -la

If you see a .registry file, delete that and rerun the installer.

4.3.2 Startup and Shutdown Automation on OS X

The BlueDragon Mac OS X installation contains an automated startup and shutdown script similar to that of the Linux installation. However, in Mac OS X it is stored in the `StartupItems` directory and is named:

```
/System/Library/StartupItems/BlueDragonServer/BlueDragon_Server
```

The existence of this script should enable BlueDragon Server to be started and stopped as the Mac OS X is booted and shutdown.

4.4 What Was Installed

The BlueDragon Server installers prompt you for an installation directory. The default installation directory for Windows is:

```
C:\BlueDragon_Server_62
```

The default installation directory for Linux is:

```
/usr/local/NewAtlanta/BlueDragon
```

Table 1, below, describes the contents of the BlueDragon installation directory.

Item	Description
bin	This directory contains various binary executable files used by BlueDragon Server. **Do not modify or delete the contents of this directory.**
classes	This directory exists in BlueDragon Server JX only and is automatically added to the classpath. See the READ ME in this directory for more information.
config	This directory contains various configuration files used by BlueDragon Server. **Do not modify or delete the contents of this directory.**
customtags	This directory is pre-configured in the BlueDragon administration console to contain CFML custom tags, typically called using the "`CF_`" prefix or with CFMODULE, that should be shared by all applications in the server. For example, a custom tag file named `BlueDragonHello.cfm` could be placed in this directory and then invoked via the tag `<CF_BlueDragonHello>`
docs	This directory contains the BlueDragon manuals in PDF format.
install	This directory contains various files used by the BlueDragon Server installer. **Do not modify or delete the contents of this directory.**
jre	This directory contains the BlueDragon Server built-in Java Runtime Environment (JRE). **Do not modify or delete the contents of this directory.**
lib	This directory contains various Java archive (.jar) files required by BlueDragon Server. **Do not modify or delete the contents of this directory.**
logs	This directory contains BlueDragon Server log files. Refer to these log files when you have problems or need to contact technical support.
servlets	This directory exists in BlueDragon Server JX only. Place Java servlet class files in this directory. See the *BlueDragon 6.2.1 User Guide* for further information on running servlets.
uninstall	This directory contains various files used by the BlueDragon Server uninstaller. **Do not modify or delete the contents of this directory.**
work	This directory contains a variety of runtime files created by BlueDragon Server. **Do not modify or delete the contents of this directory.**
wwwroot	This is the document root directory for the BlueDragon Server built-in web server. Place any `.cfm`, `.jsp`, `.html`, `.gif` files, etc., in this directory and serve them as you would normally for any web server.

Table 1. BlueDragon Server Installation Directory Content

4.4.1 How the BlueDragon Server Has Been Installed

On Windows, BlueDragon Server is installed as a service that is configured for automatic startup, and is started by the installer. On Linux and Mac OS X, BlueDragon Server is installed as a daemon and is started by the installer. See Sections 4.2.3 and 4.3.2 for more information.

5. Verifying Your Installation

With BlueDragon installed, you should now verify that the installation was successful by running some tests against the BlueDragon server as described in this section.

5.1 Built-in Web Server

To verify that the BlueDragon built-in web server is running, enter the following URL in a web browser (if you specified a port other than 8080 during installation, use that port number in the URL):

`http://localhost:8080/index.cfm`

If the BlueDragon built-in web server is working properly, you'll see a page similar to the one in Figure 3, below. See section 7.2 for more information on using the built-in web server.

Note that even if you install a web server adapter (discussed in the next section), you will still use the built-in web server for accessing the BlueDragon administration console (discussed in section 6).

Indeed, because the administration console is accessible via the built-in web server, BlueDragon is configured by default to allow access to the built-in web server only from the machine on which BlueDragon is installed (localhost). You can change it that, as discussed in section 6.2.1, below.

5.2 Web Server Adapter

If you installed a web server adapter, *be sure to restart the web server (see section3.7.2.6 for Microsoft IIS)*, then verify the installation by entering the following URL in a web browser (if your web server is not running on the standard port 80 enter the port number in the URL):

`http://localhost/index.cfm`

This URL should return a page similar to the one shown in Figure 3, below.

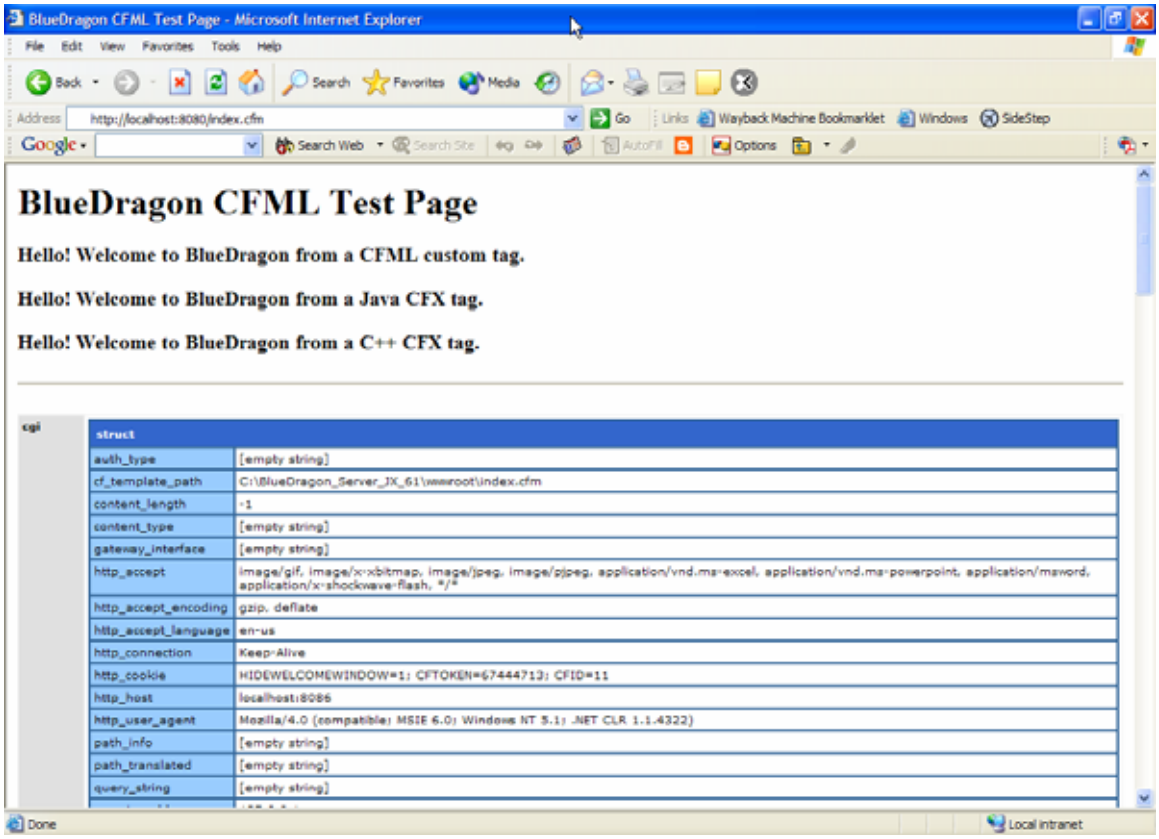
BlueDragon CFML Test Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost:8080/index.cfm
Go Links Wayback Machine Bookmarklet Windows SideStep
Google Search Web Search Site AutoFill Options
BlueDragon CFML Test Page
Hello! Welcome to BlueDragon from a CFML custom tag.
Hello! Welcome to BlueDragon from a Java CFX tag.
Hello! Welcome to BlueDragon from a C++ CFX tag.
cgi
struct
auth_type [empty string]
cf_template_path C:\BlueDragon_Server_JX_61\wwwroot\index.cfm
content_length -1
content_type [empty string]
gateway_interface [empty string]
http_accept image/gif, image/x-xbitmap, image/jpeg, image/pjpeg, application/vnd.ms-excel, application/vnd.ms-powerpoint, application/msword, application/x-shockwave-flash, */*
http_accept_encoding gzip, deflate
http_accept_language en-us
http_connection Keep-Alive
http_cookie HIDEWELCOMEWINDOW=1; CFTOKEN=67444713; CFID=11
http_host localhost:8086
http_user_agent Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; .NET CLR 1.1.4322)
path_info [empty string]
path_translated [empty string]
query_string [empty string]
Done
Local intranet

Figure 3. BlueDragon CFML Test Page

6

6. BlueDragon Administration Console

The BlueDragon administration console is used primarily to configure the BlueDragon environment. It also provides status information about the BlueDragon runtime state.

The console offers online help on each page to assist in understanding how its features work. There is information in the online help that is not in the BlueDragon documentation. Additional discussion of the online help is found in the *BlueDragon 6.2.1 User Guide*.

The first part of this section focuses simply on how to access the administration console, both locally and remotely.

Perhaps the most common activity performed in the administration console is the process of configuring datasources for use by CFML programmers. This topic is covered extensively in the *BlueDragon 6.2.1 User Guide*. But this section concludes with certain key points that may be relevant to readers of this document.

6.1 Accessing the BlueDragon Administration Console

The BlueDragon administration console is accessible only via the built-in web server; it is not accessible via web servers on which you've installed a web server adapter.

To access the BlueDragon administration console, enter the following URL in a web browser (if you specified a port other than 8080 for the built-in web server during installation, use that port number in the URL):

```
http://localhost:8080/bluedragon/admin.cfm
```

After entering this URL you will be prompted to log in to the BlueDragon administration console using the password you provided during installation. See Figure 4, below.

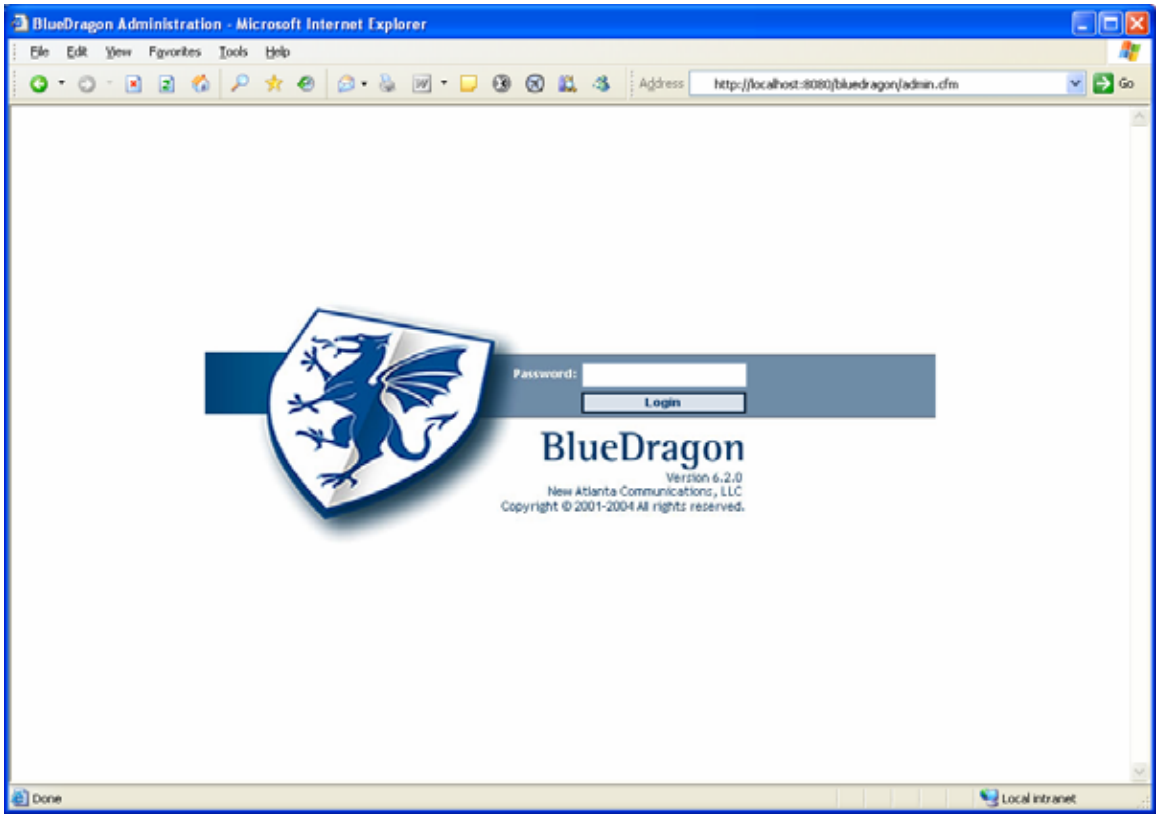

Figure 4. Administration Console Login

After logging in, the BlueDragon administration console will appear similar to Figure 5, below. Click the menu items in the left frame to access the various BlueDragon administration functions. Refer to the *BlueDragon 6.2.1 User Guide*, which can be found in the `docs` directory of the BlueDragon installation directory, for more information about using the administration console.

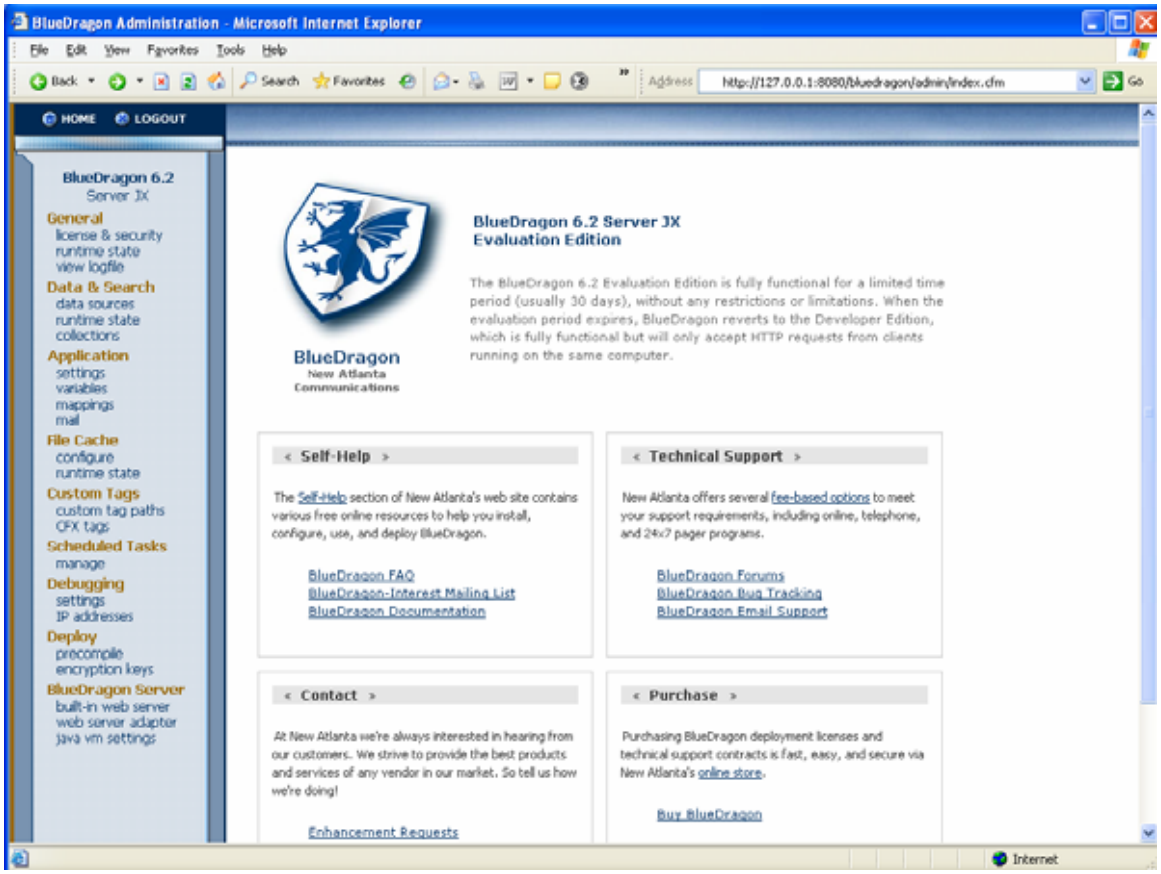
BlueDragon Administration - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://127.0.0.1:8080/bluedragon/admin/index.cfm
HOME LOGOUT
BlueDragon 6.2
Server JX
General
license & security
runtime state
view logfile
Data & Search
data sources
runtime state
collections
Application
settings
variables
mappings
mail
File Cache
configure
runtime state
Custom Tags
custom tag paths
CFX tags
Scheduled Tasks
manage
Debugging
settings
IP addresses
Deploy
precompile
encryption keys
BlueDragon Server
built-in web server
web server adaptor
java vm settings
BlueDragon 6.2 Server JX
Evaluation Edition
The BlueDragon 6.2 Evaluation Edition is fully functional for a limited time period (usually 30 days), without any restrictions or limitations. When the evaluation period expires, BlueDragon reverts to the Developer Edition, which is fully functional but will only accept HTTP requests from clients running on the same computer.
BlueDragon
New Atlanta Communications
Self-Help
The Self-Help section of New Atlanta's web site contains various free online resources to help you install, configure, use, and deploy BlueDragon.
BlueDragon FAQ
BlueDragon-Interest Mailing List
BlueDragon Documentation
Technical Support
New Atlanta offers several fee-based options to meet your support requirements, including online, telephone, and 24x7 pager programs.
BlueDragon Forums
BlueDragon Bug Tracking
BlueDragon Email Support
Contact
At New Atlanta we're always interested in hearing from our customers. We strive to provide the best products and services of any vendor in our market. So tell us how we're doing!
Enhancement Requests
Purchase
Purchasing BlueDragon deployment licenses and technical support contracts is fast, easy, and secure via New Atlanta's online store.
Buy BlueDragon
Internet

Figure 5. BlueDragon Administration Console

6.2 Accessing the Administration Console Remotely

As mentioned in the previous section, the BlueDragon administration console can only be accessed using the built-in web server. The built-in web server is configured by default to be accessible only from the server on which BlueDragon is installed. This means that the BlueDragon administration console, by default, cannot be accessed remotely. This is a security feature that reduces the exposure of the administration console.

6.2.1 Changing the Default Localhost Limitation for the Built-in Web Server

If this limitation is undesirable, you can change it by setting the IP addresses allowed to access the built-in web server. There are three approaches.

- During installation, BlueDragon now prompts you to provide the option of changing the default setting of restricting access to the localhost. You can provide additional IP addresses or a range in the installation dialogue

- If you’re able to access the administration console and want to modify it to allow other IP addresses to access it, note that the "License & Security" link (under "General") has a field called "Allowed IP addresses".

- If you can't access the administration console, you can instead modify the bluedragon-server.properties file in the config directory where BlueDragon is installed. It has an entry of the same name.

In any case (whether designating the addresses in the installation dialogue, using the administration console, or editing the XML file), the value is set by default to 127.0.0.1. It accepts a comma separated list of IP addresses or ranges using the "*" wildcard (e.g. 192.168.1.*). Again, just be careful about opening it up too broadly. The whole point of restricting it is reduced exposure of the administration console. Once you change it, be sure to restart BlueDragon.

Of course, changing this may be useful for more than just accessing the administration console, if indeed you chose not to implement web server integration and want to allow others to get into your applications (in addition to the Admin). Just be aware of the security implications when opening it to IPs on more than just your own internal network.

Indeed, a couple more points to keep in mind:

- If you're just wanting to open the web server to access the administration console from machines other than that on which it's installed but within your own network, you may want to also set your firewall to block access to the BlueDragon built-in web server port (8080 by default) from outside of your network.

- The admin password will be passed in clear text from your browser to the server. Unfortunately, BlueDragon doesn't currently support SSL in its built-in web server.

For now, if you're concerned about security, a better approach is to use SSH or other approaches to tunnel into the machine.

6.2.2 Enabling SSH Tunneling

Another, more secure, way of opening remote access to the built-in web server (and administration console) is to use SSH tunneling. This is easiest to do with a Linux/Unix servers and any client, but it's also possible with a Windows server. Free SSH servers are available. See http://www.jfitz.com/tips/putty_config.html for a tutorial on the Putty (ssh client) on Windows.

Forward local port 8080 (or wherever you have BlueDragon's internal server set) via SSH to the remote server port 8080. This will also allow you to leave the remote server configured to accept requests only from localhost/127.0.0.1, as that is where the incoming SSH tunnel will appear to come from.

On *nix, the command takes this form:

```
ssh -L localport:remotemachine:remoteport accountname@remotemachine
```

You can add the -C switch for compression if on a slow connection, but be aware that on a fast connection it will actually slow things down. To make the ssh forwarded connection available to other computers, add a -g switch. Here is an example:

```
ssh -C -L 8080:mybox.myisp.com:8080 myaccount@mybox.myisp.com
```

Enter the password when prompted. Then you can use your browser to access http://localhost:8080 (in this example) for the BlueDragon Admin on your remote machine.

6.3 Datasource Configuration

There are some aspects of datasource configuration in BlueDragon that may not be obvious to casual users of the administration console. These are highlighted here, and explained in more detail in the *BlueDragon 6.2.1 User Guide*.

6.3.1 Automatic Configuration of ODBC Datasources (Windows)

On Windows platforms, when BlueDragon Server is installed it automatically finds any existing ODBC datasources (as configured by either the Windows ODBC Datasource Administrator or ColdFusion 5 or earlier) and imports the configuration information into BlueDragon. They are listed in the BlueDragon administration console under Datasources>Configure.

Note that if such an auto-configured ODBC datasource had a username, password, or servername specified in the Windows ODBC configuration, BlueDragon is not able to preserve that and therefore you must add those back manually.

See the BlueDragon User's Guide for more information on using the administrator console to create additional datasources, as well as using the "ODBC Refresh" button to refresh the list of automatically configured ODBC datasources, and also a means to disable this auto-refresh mechanism if desired.

6.3.2 Configuring Access, SQL Server, and Others as ODBC Datasources

The converse of the previous section is that there is no option in the BlueDragon administration console for adding ODBC datasources such as Access. And while the Server JX and J2EE editions of BlueDragon provide a driver for SQL Server (and other

databases like Oracle), the free Server edition does not. Does this mean you can't use an Access datasource in BlueDragon? Or a SQL Server database in the free Server edition? No. It's just that you must instead create the datasource outside of BlueDragon as described in the previous section and then use the ODBC Refresh option also described there to see the datasource.

6.3.3 Support for MySQL

As discussed previously in this document, while BlueDragon supports MySQL (and even shows an available MySQL Driver in the list of choices of drivers offered in the administration console when adding a datasource), the driver is not installed with BlueDragon. See section 3.4 for more information on preparing the environment to support MySQL.

While the free Server edition on Windows does not support the MySQL JDBC driver, it does support any ODBC driver and you can obtain and use the MySQL ODBC driver on any BlueDragon edition deployed on Windows.

6.3.4 Configuring Datasources Not Listed

If you'd like to use a database other than those listed in the BlueDragon administration console, you may be able to, if you have the needed JDBC driver and as long as you are not running the free Server edition of BlueDragon. For more information, see the BlueDragon User's Guide as well as FAQ 215:

http://www.newatlanta.com/biz/c/products/bluedragon/self_help/faq/home

7. Executing Your CFML Applications

With BlueDragon installed and verified, the next step will be to execute your existing CFML applications. How you do this will depend on whether you're using the built-in web server or have implemented a web server adapter.

7.1 Working with a Web Server Adapter

If you're using a web server adapter, the location of your CFML files will be driven by your web server and/or virtual directory mappings for that web server. For instance, if you're using IIS, you would typically place your CFML templates in a subdirectory of C:\inetpub\wwwroot. Or, you may create a virtual directory in IIS and then point that virtual directory (alias) to any directory accessible to the web server.

Indeed, if you already have CFML templates in the web server root or a virtual directory from having worked with ColdFusion previously, and you implement the BlueDragon web server adapter for that web server (thus choosing to have BlueDragon process your CFML templates instead of ColdFusion), you will be able to simply execute those same CFML applications from their existing location. See section 3.2 for information on configuring the environment when you already have ColdFusion installed and integrated with your web server.

7.2 Working with the Built-in Web Server

If you choose to use BlueDragon's built-in web server instead (such as for testing or development), you will want to place your CFML templates in the `wwwroot` sub-directory of the BlueDragon installation directory. Move or copy/paste any `.cfm`, `.jsp`, `.html`, `.gif` files, etc., into the `wwwroot` directory or a subdirectory and serve them as you would normally for any web server. (Note that the free BlueDragon Server does not support execution of JSP's.) The built-in web server does not currently support creation of virtual directories.

7.3 Log Files

BlueDragon creates several log files which may assist in your understanding the operation of both the BlueDragon engine and your CFML applications. See the discussion of log files in the *BlueDragon 6.2.1 User Guide*.

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8. Updating BlueDragon

If you already have BlueDragon installed and want to install another edition or version, there are some concerns you should be aware of. This section highlights those. It also presents information that may be useful when uninstalling BlueDragon, which is discussed further in section 9.

In the discussions to follow, the term “edition” is used to refer to the different BlueDragon products, as in BlueDragon Server of BlueDragon Server JX. The term “version” is used to refer to product version numbers, such as 6.1 and 6.2, for example. Additionally, note that different point releases (or beta editions) of a given edition and version are considered to be of the same version for the purpose of this discussion.

8.1 Updating BlueDragon/J2EE Versions

The remaining discussion in this section involves only the Server and Server JX editions. With the BlueDragon/J2EE edition, you can implement a new version simply by installing it as a new web application, even alongside existing web applications of the previous release (or indeed the same release). See the *Deploying CFML on J2EE Application Servers* manual for more information on installing that product and deploying J2EE web applications.

8.2 Installing Different Server Editions and Versions

It is permissible to install *different editions* of BlueDragon Server products, as well as *different versions of the same edition.*

For instance, you can install and run BlueDragon 6.2.1 Server and BlueDragon 6.2.1 Server JX at the same time (or the 6.1 versions of each at the same time), to test the differences between the two products/editions.

You can also install BlueDragon Server 6.2.1 when you have an existing BlueDragon Server 6.1 or 6.2, (or the Server JX editions of the two releases), to test differences between the releases.

You can also install different combinations of these, even installing Server 6.1, Server JX 6.1, Server 6.2.1, and Server JX 6.2.1, all at the same time.

Each installation is independent of the other, including their own wwwroot and all other configuration settings. As discussed in sections 3.6 and 3.7, the only point of concern is

that they must each be configured to use different ports for the built-in web server and any web server adapter.

Be aware, however, that there is no mechanism to carry your current configuration settings, custom tags, logs, and `wwwroot` documents (if you used the built-in web server) from the current installation to another. Section 8.4 offers information to help preserve current settings and implement them in the new installation.

8.3 Updating a Given Server Edition at a Given Version

It is *not* permissible to install a given version of the same edition of a BlueDragon Server product more than once. This includes trying to install a new beta or full release when a beta of that same version is already installed.

You must uninstall the existing version first and then install the new version. As discussed in section 9.1, the uninstall process removes all files and directories associated with the BlueDragon Server installation. When running the uninstaller of BlueDragon 6.2 or higher, the uninstaller now attempts to preserve some prior work and settings, but you should still take care to protect any vital previous information from the previous installation, as discussed in the next section.

8.4 Protecting Previous Work, Settings and Logs

When planning for an upgrade, you should make backup copies of some (if not all) of the directories in the previously installed BlueDragon installation.

One suggestion before performing an uninstall (if you might want to keep the previous settings for reference) would be to:

1. stop the service (or daemon, in Linux)
2. copy the directory containing the BlueDragon installation (such as `c:\BlueDragon_Server_62`) to a new location
3. rename it to indicate that it's a backup of the previous version (you can't simply skip 2 and rename the directory before uninstallation, as the uninstall process expects to find the program directory in its original location)
4. perform the uninstall

This way, when the uninstall process removes all the files from the original directory, you still have access (for easy reference) to the files that were in that previous installation.

As you evaluate the files and directories in the installation directory, consider the following:

- `wwwroot` holds any CFML and other web documents you created if you used the built-in web server for development

- `classes` and `lib` hold CFX custom tags, database drivers, servlets, or other java classes (note that each will contain files and subdirectories even if you don't place any there)

- `customtags` holds any CFML custom tags you may have placed there for server-wide access (again, there are some sample files already placed there at installation)

- `servlets` (found in Server JX only) holds any java servlets you may have placed there (again, there are some sample files already placed there at installation)

- `logs` contains logs of activity from the execution of the BlueDragon Server

- `work` contains several files from the execution of the BlueDragon Server, including the `bluedragon.log` (logging server activity and server errors) and the `cfregistry.db` (used for simulating the registry for `CFREGISTRY` processing), as well as various directories for logs created by `CFLOG`, `CFSCHEDULE`, and `CFMAIL`, cached queries (if used), and any undelivered mail from using `CFMAIL`. It also contains the `temp/rtelogs` directory, holding a file for each error that occurred during the execution of CFML.

- `config`, which contains the `bluedragon.xml` and various other properties files

With some of the above files and directories, you may be able to simply place them in their respective locations in the newly installed BlueDragon directory if they're files that you created (such as CFML templates, custom tags, servlets, etc.).

Because many of these directories contain files placed their at installation time, it would not be wise to simply copy all the directories into their respective locations in the new installation. Many of these files may not remain the same from one version to another.

In particular, note that you must not simply copy the `bluedragon.xml` file into the new release's config directory. The `bluedragon.xml` generally changes from release to release, and differs from product to product; therefore you should *never copy the file from one installation in another*.

This also means that some configuration information in the BlueDragon administration console cannot easily be migrated from one installation to another. All the entries in the console are stored in the `bluedragon.xml` file, so you can refer to the copy you made previously when reconfiguring the administration console in the new release.

As of BlueDragon 6.2, however, the uninstaller does now preserve the prior `bluedragon.xml` file and reuses that in a 6.2 or later re-installation. Also, the

BlueDragon 6.2 uninstaller attempts to preserve many of the files discussed above. The information remains for your consideration to further protect your work.

8.5 Obtaining Updates and Patches

Patches for BlueDragon are made available whenever New Atlanta deems it appropriate. Patches are always provided at no charge to BlueDragon users, therefore it's highly recommended that you apply a patch whenever it is issued (as announced on the BlueDragon-Interest mailing list) to be sure to resolve or prevent problems you may experience.

You can find these patches in the FTP site, `ftp://ftp.newatlanta.com`, specifically in the `public/bluedragon` directory. A subdirectory is offered for each numbered version of BlueDragon (such as `6_2`, `6_2_1`), and under each is a `patches` directory if any patches are available for that release. A Readme.Txt file in the `patches` directory explains how to install the patch.

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9. Uninstalling BlueDragon

The following sections describe uninstalling BlueDragon on Windows, Linux, and Mac OS X.

9.1 Protecting Previous Work, Settings, and Logs

Before uninstalling, be cautioned that the BlueDragon uninstall process attempts to remove all directories and files where BlueDragon was installed, which may include useful work and information that you may want to protect (especially if you're planning to then install a new release).

As of the 6.2 release, the BlueDragon uninstaller does try to preserve many of these prior work files. It now removes adapter installations, services, menu links, and all files and folders in the BlueDragon installation directory. Exceptions are made for the directories "classes", "customtags", and "wwwroot" when their contents have been modified. These directories are then preserved by renaming them with a ".save" extension.

If you used BlueDragon's built-in web server and had created or placed any files in the BlueDragon directory's `wwwroot` subdirectory, be sure to copy those to some form of backup before uninstalling. Similarly, if you used custom tags, database drivers, servlets, other java classes, or the `CFREGISTRY` tag to create data in the simulated BlueDragon registry (see the *BlueDragon 6.2.1 Compatibility Guide* for more information), or if you care to preserve the various logs created by BlueDragon and possibly your applications, you'll want to back up those as well. This is discussed further in section 8.4.

When the uninstall process is completed, there may be a few directories and/or files remaining from the uninstall process (such as web server adapter libraries that may have been in use when BlueDragon was uninstalled). These can generally be safely deleted.

You will also find an uninstall log file in the BlueDragon Uninstall directory.

9.2 Uninstalling on Windows

The BlueDragon uninstaller can be invoked from the Add/Remove Programs Control Panel or by double-clicking the BlueDragon uninstaller icon which is located in the `uninstall` sub-directory of the BlueDragon installation directory. The graphical uninstaller requires a minimum of 8-bit color depth (256 colors) and a minimum 640 x 480 screen resolution.

9.3 Uninstalling on Linux

At a command prompt enter the following from the `uninstall` sub-directory of the BlueDragon installation directory to launch the uninstaller:

```
sh ./Uninstall_BlueDragon_Server_JX_6.2
```

For the Server edition, remove the _JX portion of that command. The uninstaller will be launched in console or GUI mode based on the mode used when the installer was run. The GUI mode uninstaller requires a minimum of 8-bit color depth (256 colors) and a minimum 640 x 480 screen resolution.

9.4 Uninstalling on Mac OS X

At a command prompt or from the Finder, execute the following uninstall application found in the "`uninstall/Uninstall BlueDragon Server 6.2.app`" subdirectory of the BlueDragon application installation:

```
"Contents/MacOS/Uninstall BlueDragon Server 6.2"
```

The uninstaller will be launched GUI mode.

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10. Appendix: Disabling NES/iWS Servlets

Section 3.7.4 indicated that if you plan to install a BlueDragon web server adapter with Netscape® Enterprise Server/iPlanet™ Web Server, you must first disable the web server's built-in servlet support. Follow the instructions, below, based on which version of the NES/iWS web server you have installed.

10.1 iPlanet Web Server 6.0

For iWS 6.0, the built-in servlet/JSP engine is enabled by default. You **must** disable the built-in servlet/JSP engine **before** installing the BlueDragon web server adapter.

1. From the iPlanet Administration Server home page, select the appropriate server.
2. On the Server Manager page, click the **Java** tab.
3. On the Enable/Disable Servlets/JSP page, "uncheck" the **Enable Java Globally** option**,** and click **OK** (see Figure 6, below).
4. On the resulting page, click **Save and Apply**.

Make sure to restart the iWS web server after making these changes and installing the BlueDragon web server adapter.

10.2 iPlanet Web Server 4.0 and 4.1

For iWS 4.0 and 4.1, the built-in servlet engine is enabled by default. You **must** disable the built-in servlet engine **before** installing the BlueDragon web server adapter.

1. From the iPlanet Administration Server home page, select the appropriate server.
2. On the Server Manager page, click the **Servlets** tab.
3. On the Enable Servlets page, click **No** under **Activate the Servlet Engine?,** and click **OK** (see Figure 7, below).
4. On the resulting page, click **Save and Apply**.

Make sure to restart the iWS web server after making these changes and installing the BlueDragon web server adapter.

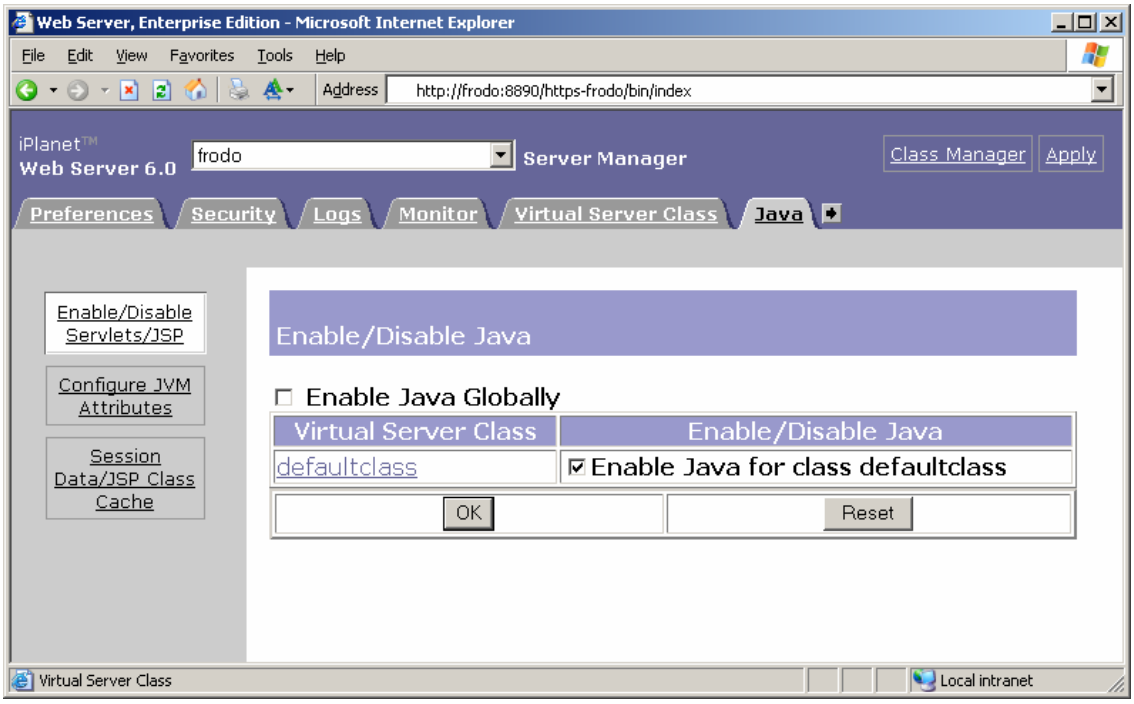

Figure 6. Disable iWS 6.0 Servlets/JSP

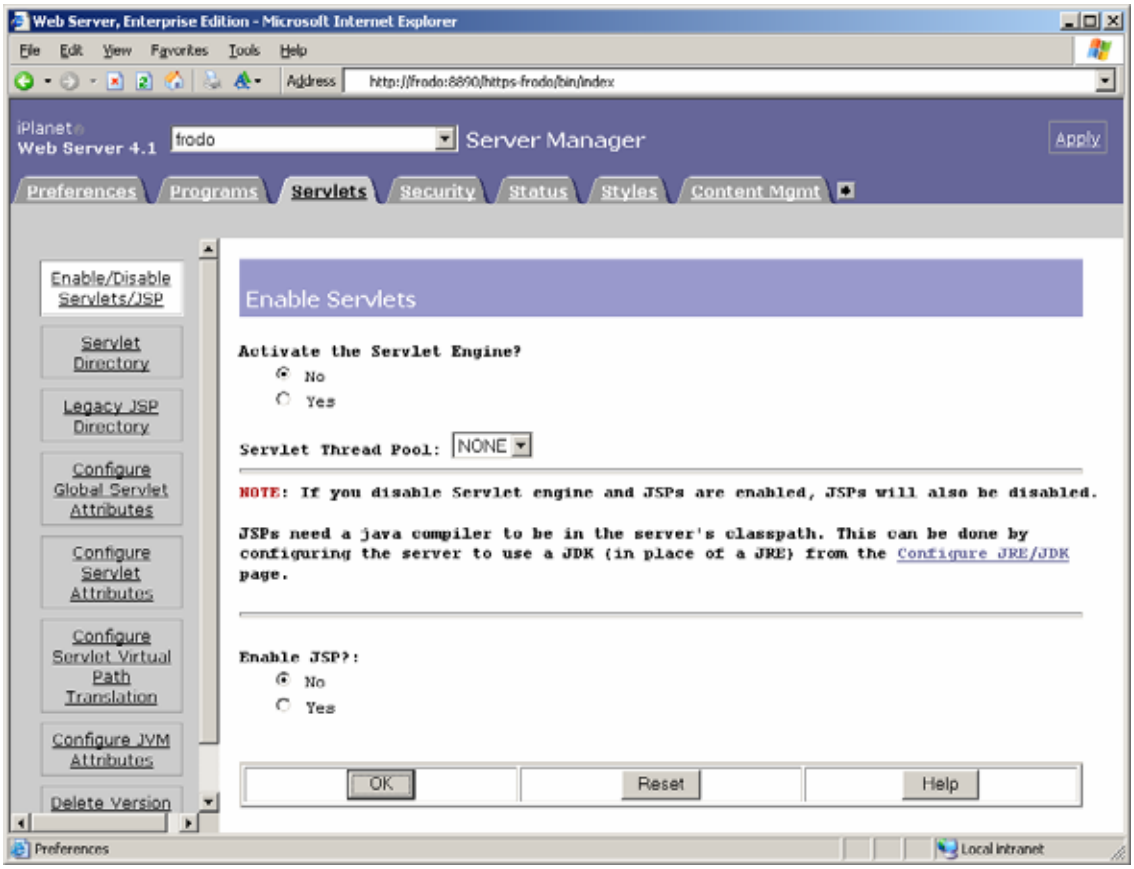

Figure 7. Deactivate the iWS 4.0/4.1 Servlet Engine

10.3 Netscape Enterprise Server 3.5.1 and 3.6

For NES 3.5.1 and 3.6, the built-in Java interpreter is deactivated by default. If, however, it has been activated on your server you must deactivate it before installing the BlueDragon web server adapter.

1. From the Netscape Administration Server home page, click the appropriate server.
2. Click **Programs** from the menu bar in the upper frame of the server administration page.
3. In the menu in the left frame of the Programs page, click **Java**.
4. Turn off the Java interpreter (see Figure 8, below).

Make sure to restart the NES web server after disabling the Java interpreter.

If you have problems using the BlueDragon web server adapter after deactivating the NES built-in Java interpreter, check the NES `obj.conf` file and remove the following Init directives, which should be at the top of the file:

```
Init funcs="SJavaBootInit" shlib="…" fn="load-modules"
Init classpath="…" ldpath="…" fn="SJavaBootInit"
```

Make sure to restart the NES web server after modifying the `obj.conf` file.

Figure 8. Deactivate the NES 3.6 Java Interpreter